

## THE MECHANISM OF GAS TRAPPING AND RELEASE IN SOLAR SYSTEM WATER ICE

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Water ice, deposited from the vapor below 130K, is amorphous and has many pores. If the deposition is carried out in the presence of gas, the gas molecules enter the pores and stick to the ice walls by van der Waals forces. When another layer of ice forms above the pores, the gas is trapped inside. Upon warming up, the water molecules in the ice move, opening some of the pores and some of the gas can escape. Preferences in trapping efficiencies among various gases will be discussed, as well as grain ejection and collapse during massive gas release. The experimental findings will be used to predict and explain phenomena on comets and icy satellites.